



Datasheet of product

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Product information

Product:	Grinding ball
Manufacturing process:	Casting
Heat treatments:	Quenched and tempered

Chemical composition

Grade	%C	%Si	%Mn	%Cr	%Ni	Max %P	Max %S
AR32Cr10	2.9-3.5	0.3-1	0.3-0.7	10-12	<0.5	0.05	0.08
AR28Cr12	2.5-3.3	0.5-1	0.3-0.7	12-14	<0.5	0.05	0.08
AR22Cr15	1.8-2.6	0.5-1.1	0.3-0.7	15-17	<0.5	0.05	0.08
AR24Cr29	2-2.8	0.5-1	0.3-0.7	29-31	<0.5	0.05	0.08
AR22Cr17	1.8-2.6	0.5-1.1	0.3-0.7	Min 17	<0.5	0.05	0.08
AR50Cr	3-3.8	0.5-1	0.3-1	0.5-2.5	----	---	0.1

Product details

Grade	Size – mm	Hardness* – HRC	Mill type	Preferred industry
AR32Cr10	15, 17.5, 20, 25	60-66	Dry/Wet	Cement industry
AR28Cr12	30, 35, 40, 50	60-64	Dry/Wet	Cement industry
AR22Cr15	60, 70, 80, 90, 100, 125	58-62	Dry/Wet	Cement industry
AR24Cr29	30,35, 40, 50	58-62	Dry/Wet	Steel making industry
AR22Cr17	15, 17.5, ...,90, 100, 125	58-62	Dry/Wet	Gold industry
AR50Cr	15, 17.5, 20, 25, 30, 35	55-60	Wet	Iron, copper and other
	40, 50, 60, 70, 80, 90, 100, 125	45-50	Wet	Iron, copper and other

* Maximum differences between the surface and center hardness is less than 2 HRC.

Dimensions and tolerances

Diameter - mm	limit deviation - mm	surface area – cm ²	volume – cm ³	Mass - kg	quantity in one ton
15	±1.0	7.07	1.77	0.015	66667
17.5		9.62	2.81	0.023	43478
20		12.57	4.19	0.034	29412
25		19.63	8.18	0.065	15385
30	±1.5	28.27	14.14	0.119	8403
35		38.48	22.45	0.191	5025
40		50.27	33.51	0.275	3636
50		78.54	65.45	0.535	1869
60	±2.0	113.10	113.10	0.894	1118
70		153.94	179.59	1.474	678
80		201.06	268.08	2.087	479
90		254.47	381.70	2.960	338
100	±2.5	314.16	523.60	4.360	229
125	±3	490.87	1022.65	7.750	124

Volumetric hardness coefficient

A	(surface)	0.289		----
B	(3/4R)	0.437		
C	(1/2R)	0.203		
D	(1/4R)	0.063		
E	(center)	0.009		

Metallographic analysis

The structure is tempered martensitic with low percentage of austenite.

Pictures

